

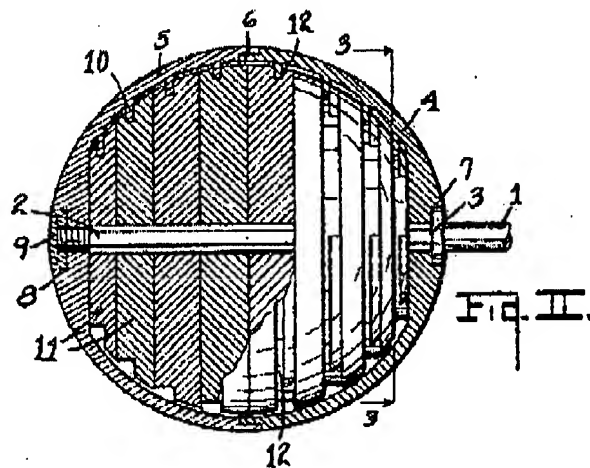
### REMARKS

The examiner has rejected claims 1 and 20 under 35 U.S.C. 102(b) and 35 U.S.C. 103(a). In response the applicant has cancelled claim 1 to 20 and replaced them with new claims 21 to 24.

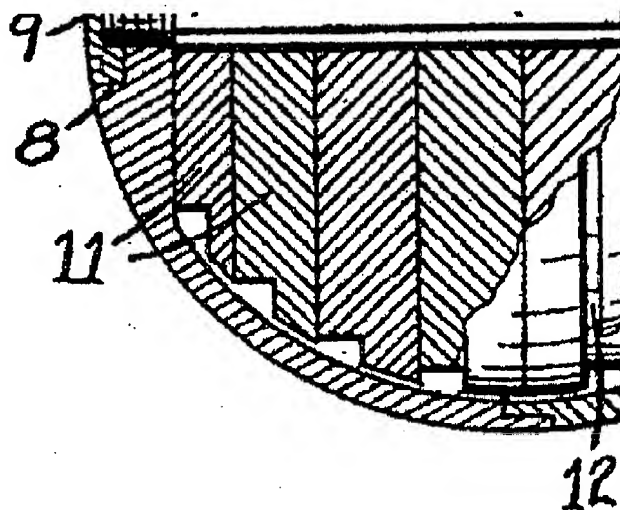
New claim 21 recites the weights being substantially supported by the edges of the flanges and further recites that the bolts and the first and second recesses are dimensioned and configured such that any shear forces created between the handle and the weights caused by dropping the dumbbell are primarily transmitted between the peripheral edges of the flanges and the internal rims of the weights rather than transversely through the bolts. These features are specifically referred to in the detailed description of the application. In particular, line 16 of page 5 of the application reads "The present design minimizes the shear loading on threaded fasteners 18. When flanges 14 are inserted in recess 38 of end caps 16, rim 30 on the flange and inner rim 40 of the cap are in near physical contact, permitting the end cap and the handle portion to efficiently transmit shear forces between rim 30 and inner rim 40 should the dumbbell be dropped. As a result, less shear force is applied to fasteners 18 and the fasteners are less likely to loosen or fail." The examiner has pointed out that the disclosure states that the diameter of the recess in the weights is slightly greater than the diameter of the flanges; however, it should be pointed out that the application further specifies that the flanges and recesses are configured such that when the flange is fully inserted into the recess, the rim of the flange is and the inner rim of the cap (weight) are in near physical contact to permit shear forces to be transmitted efficiently between the flange and the weight while minimizing the shear forces through the fasteners (bolts). It is respectfully submitted that the limitations of new claims 21 to 24 are supported by the disclosure portion of the application.

It is respectfully submitted that new claim 21 is not anticipated by, nor obvious from, any of the cited prior art references. In particular, it is respectfully submitted that US patent no. 1,524,888 to Schuur does not disclose the use of flanges to support weights or to transmit shear

forces from the weight to the handle. Figure 2 in the Schuur reference clearly shows that weights 11 are being supported on shank portion 2 of handle bar 1 and not by collar 3. For greater clarity, figure 2 from the Schuur reference has been reproduced below.

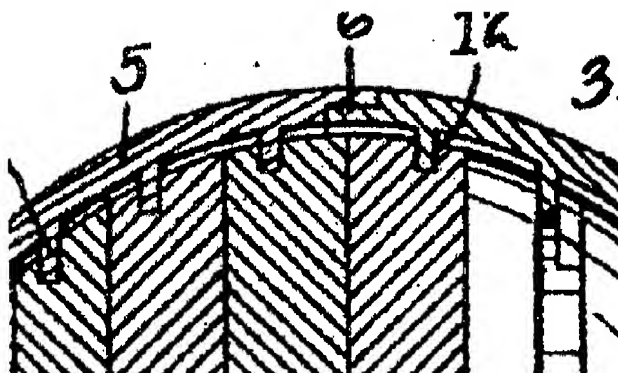


It is clear from viewing figure 2 of the Schuur reference that there is a space (gap) between weights 11 and spherical sections 4 and 5. The only possible way for the weights to be separated from hemi-spherical sections 4 and 5 by a gap is to support the weights from shank 2. The figures below are blown up portions of figure 2 of the Schuur reference which more clearly indicate that there is a gap between weights 11 and the hemi-spherical sections.



Bottom left corner of figure 2.

Upper portion of figure  
2.



Furthermore, figure 3 of the Schuur reference clearly shows that Weights 11 in the Schuur reference are mounted onto shank portion 2. The written description in Schuur refers to the shank portion 2 having a non-circular cross section. In particular, figure 3 of the Schuur reference clearly shows that shank portion 2 has a hexagonal cross section and that there is no space between the shank and the weight mounted there to. For greater clarity, figure 3 is reproduced below, as well as another figure representing a central portion of figure 3 which is blown up to more clearly see the relationship between weight 11 and shank portion 2.

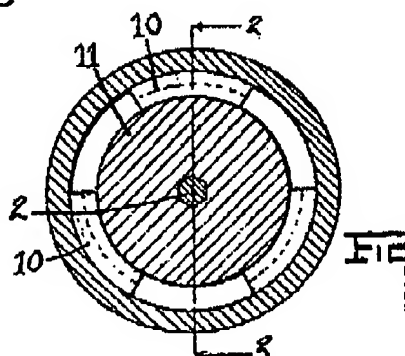
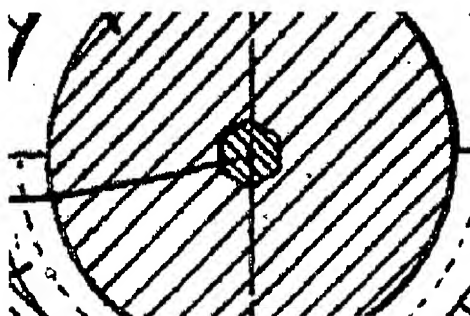
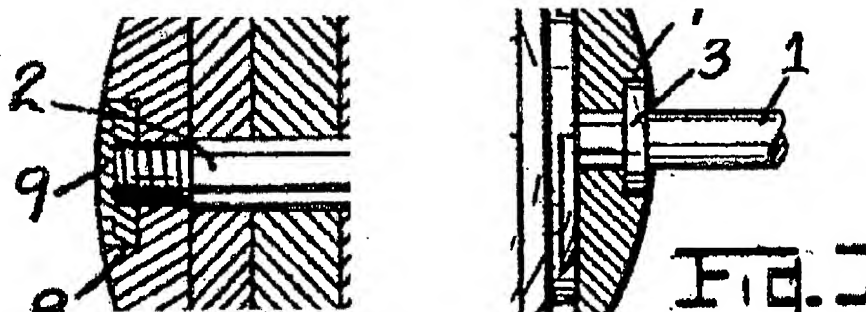


Figure 3 of Schuur



Blown up section of figure 3  
of Schuur reference.

Furthermore, it is clear from figure 2 that the hemi-spherical castings are also mounted and supported by shank portion 2. Below are reproduced two blown up portions of figure 2 which clearly indicate that the hemi-circular castings are in contact with shank portion 2 (again, please keep in mind that shank 2 is disclosed as having a non-circular - hexagonal cross section).



Furthermore, it is submitted that figure 2 of the Schuur reference does not disclose a gap between the shank portion and the weights. It must be remembered that the shank portion has a hexagonal cross section; hence, the illustration in figure 2 actually shows the hexagonal shape of the shank and not a gap between the weights and the shank.

It is respectfully submitted, therefore, that the Schuur reference discloses supporting the weights directly on the shank portion of the handle and not via collar 3. Since the weights in Schuur are physically mounted to the shank portion of the handle, it is submitted that any shear forces created by dropping the device will necessarily be transferred almost entirely through the shank portion. Very little, if any, shear forces will be transmitted through the collar portion.

Furthermore, given the very small size of the collars relative to the size of the weights, it is clear that the collars in the Schuur device are not intended to support the much larger weights. In contrast, the shank portion is large and robust and well capable of supporting the weights and transmitting any shear forces created by dropping the device. It is respectfully submitted that the collar in the Schuur reference serves no other purpose but to prevent the weights from moving along the shank.

Therefore, it is respectfully submitted that the Schuur reference does not teach the use of a flange to transmit shear forces from the weights but instead teaches the transmittal of shear forces through the shank. Indeed, the Schuur reference teaches away from the invention since the weights are clearly being supported by the shank portion of the handle and little, if any, weight is supported by the collar. Since the Schuur reference teaches away from transmitting shear forces through the collar, the claimed invention cannot be obvious from the Schuur reference. It is further submitted that since the Schuur reference teaches away from the claimed feature of transmitting shear forces through the flange, it is not possible to combine the Schuur reference with any of the other references cited to find that the invention, as claimed in new claims 21 to 24 are obvious from the cited art. It is therefore respectfully submitted that the invention as claimed in new claims 21 to 24 are not obvious from the prior art.

In view of the foregoing amendments and remarks, it is submitted that all of the claims are now in condition for allowance and such action is respectfully requested. Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that he be contacted at the number indicated below.

For the reasons outlined above, allowance of this application are respectfully requested.